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American School
of Classical Studies
at Athens

OENIADAE

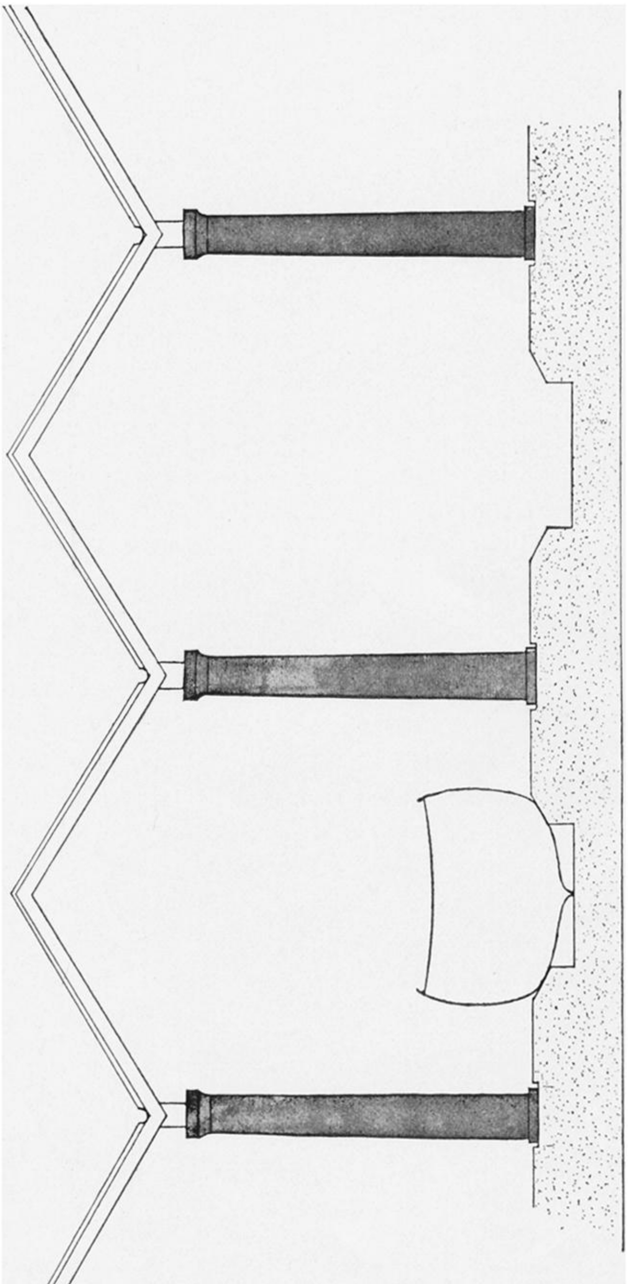
VI

THE SHIP-SHEDS

[PLATES IX–XI]

BEFORE the excavations at Oeniadae in December, 1900, and May, 1901, the ship-sheds, situated on the eastern side of the entrance to the small harbor which lies at the northern end of the city, had been a source of considerable interest to the travellers who had visited the site. Both Leake and Heuzey make mention of them, and even Cyriacus of Ancona, who visited Trikardo in 1436, although he makes no verbal mention of them, gives a drawing which has been reproduced above in the Introduction (Fig. 15); this can scarcely represent anything but the ship-sheds. It shows the five rock supports against the rock cliff as they exist to-day, and likewise represents the name ΑΡΙΣΤΙΔΑΣ, cut on the western interior wall.

On the eastern side of the small harbor, which was undoubtedly reached from the sea by a canal leading out to the west, a hill rose abruptly from the water's edge. In the side of this hill, a large quadrangular space was cut into the solid mass of gray limestone which composed it, and the stone was removed, possibly to be used in the adjacent walls. In this cutting we find constructed what appears to be a combination of ship-sheds and a naval storehouse. The cutting is roughly 41 m. in width and 47 m. in length, at least the latter is the present length of the best preserved side wall from which alone we may judge the



THE SHIP-SHEDS AT OENIADAE

Cross-section showing the arrangement of columns and slides total length, since, in the course of time, the harbor has become filled with mud, and the present level of the water in the marsh is much higher than formerly, as the water permeates the soil and is not allowed to drain away. Digging at the western or open end of the building was thus rendered impossible. Even where it was possible to excavate, there were many difficulties in addition to the boggy soil at the west, for near the walls the ground was strewn with huge blocks of polygonal masonry fallen from the walls above, which with our primitive implements it was practically impossible to remove, and, furthermore, the presence among these of numerous wild fig trees, while adding to the natural beauty of the spot, was an additional hindrance in digging.

As the roof of the building was of necessity rather lofty (*c.* 7 m.), the solid rock of which the side walls were partly composed was not sufficiently high toward the west, and in consequence a wall of polygonal masonry was carefully built on top of it. We find this done on the south side, and may assume that it was also done on the north, where the wall is now badly broken and the rock disintegrated. The wall on the south side was 1.65 m. in thickness.

In the space between the walls we ran two trenches at right angles to one another; one across between the side walls, and the other parallel to them, extending from the back wall to where the influx of water interfered with our work. The results of these trenches are shown in PLATE IX.

It was discovered that the space between the walls was divided into six parallel sections by five rows of columns, which ran from the back wall down to the water's edge and served as supports for the roof. It was likewise found, as was to be expected, that the floor sloped gradually upwards toward the back wall, an illustration of which is shown in PLATE X. Between the southern wall and the rows of columns were five slides, or groves, in which the triremes could be drawn up, but in the extreme northern section the floor was left plain.

At the lower level toward the west the columns, as shown in

PLATE XI, stood on the floor between and above the grooves, but toward the east the slides were gradually raised to a sharper incline, and the columns rose from a kind of trench between them, as shown in Fig. 48. The columns of white limestone rested on square white limestone bases (about 0.80 m. square and 0.30 m. thick), to which they were firmly attached by two iron dowels. The bases in turn were fastened to the solid rock in the same manner, but instead of standing upon the level surface they were set in quadrangular beddings of various sizes, which were cut about 0.30 m. deep into the rock. These bases were set about 2.25 m. apart from centre to centre (which is marked by a square hole; as is usual in columns formed of drums), and this distance does not differ greatly from the corresponding measurement of 2.16 m. found in the ship-sheds at Piraeus.[1] At Piraeus, however, every alternate series had a greater intercolumniation, which Dr. Dörpfeld supposes was due to the fact that the latter columns supported only the peak, whereas the former took the thrust of the roofs from each side.

At Oeniadae there was probably a gable roof between each row of columns, and the span being thus reduced no support was needed for the peak of the roof. At Oeniadae the distance across the slides from centre to centre of the series of columns is 6.78 m., while at Piraeus it was about 6.50 m.; this similarity leads to the natural conclusion that the Athenian and Acarnanian triremes were approximately of the same size.

Of the columns themselves portions of only two, as far as is known, remain *in situ*, and as these are at the edge of the marsh we were unable to uncover them to their bases, but judging from the many drums that are lying about they had a lower diameter of 0.72 m., which decreased to 0.62 m. at the top, showing that the columns had some entasis. Their exact height is not known, but estimating by the height of the projections on the face of the cliff (to be discussed later), they should have been about 7 m. including the capital. These

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[1] Cf. Πρακτικά for 1885, p. 63 ff.

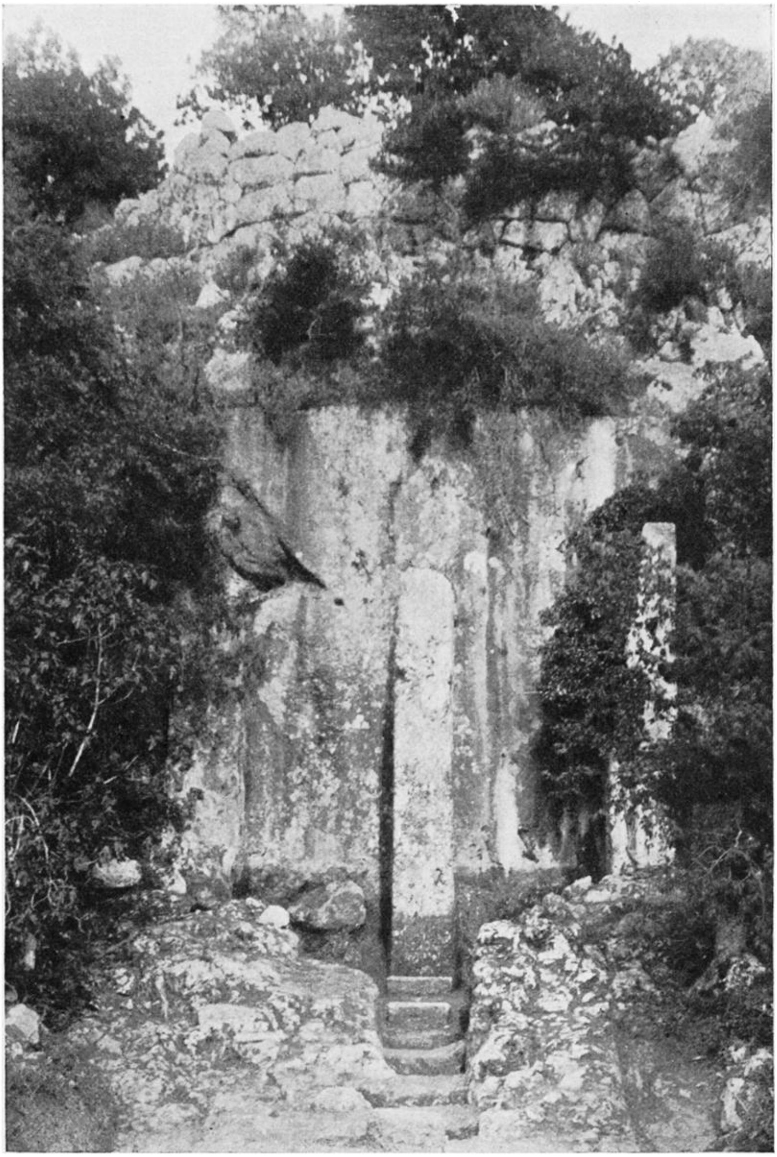

Figure 48. — Back Wall of Ship-sheds and Second Row of Columnar Bases, counting from the South.

columns, not being intended for show purposes, were left rough and unfinished, but were carefully dowelled together. Only one fragment of a capital was found, but this was fortunately of sufficient size to allow its dimensions to be ascertained. It was of a crude Doric order, roughly finished, with an abacus 0.80 m. square and 0.20 m. thick, while the torus below was also 0.20 m. thick, and with a lower diameter of 0.62 m. flares out in a straight, not curved, line to 0.76 m. above.

As I have said, the distance from centre to centre of the columns was about 2.25 m.; this is the case with the exception of the three upper columns, where we find some irregularity in spacing, in addition to the fact that the last base is not sunk in a cutting, but stands upon the levelled surface of the rock. The series ended in a pilaster, of which nothing but the base remains. This base projects from the buttress of natural rock a distance of 0.46 m. and is 0.95 m. in width ; the pilaster was probably slightly smaller. This pilaster really served no purpose except as an ornament to the gray limestone pier against which it is engaged, and which projects from the solid cliff or back wall of the building.

This back wall is entirely cut out of the solid rock, and shows a height of 11 m. The projections just mentioned, of which there are now five remaining, were what first showed the purpose of the building. They are mentioned by Leake,[1] but he states that they were constructed of masonry, which statement shows the cursory nature of his examination. Heuzey says that there were six standing when he visited the site.[2] These projections occur at intervals of about 2.45 m. along the face of the cliff, and are of two sizes : the larger project about 2.60 m., and are 1.20 m. in width ; these come at the head of each slide ; the smaller at the ends of the series of columns project only 2.20 m. and are 0.90 m. in width. The former are considerably higher than the latter, but unfortunately we were able to obtain only the height of the latter (about 7 m.), taking which was attended with extreme difficulty.[1] The purpose of these projections is not clear; it seems probable that they acted as supports to the wall of which they were a part, and so prevented the flaking off of large pieces of rock which occurred at the northern end, probably after the fall of the piers. Heuzey mentions a legend told him by the peasants, who said that large rings of bronze, or *κρικέλλαις*, were once attached to the walls. Their location is not stated, but they were probably at the ends of the larger piers and may have been used in drawing the triremes up the incline. Unfortunately all traces of the attachment of rings to the walls, as well as the legend itself, have disappeared. One primary use of the piers was undoubtedly to serve as a support for the roof, as may be seen from the difference in their heights. As we have seen, the roof was probably in sections, with a gable between each series of columns; thus while the eaves rested on the lower piers at the ends of the rows of columns the peaks of the gables were firmly held by the higher ones.

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[1] W. M. Leake, *Travels in Northern Greece*, vol. III, p. 561.

[2] L. Heuzey, *L'Acarnanie*, p. 449.

It is hard to say just what the spaces between the piers were used for. They really are small chambers of almost uniform size, the fourth or open side being formed by the rounded end of the slide which here rises 1.70 m. above the floor of the chamber, which is on a level with the base of the limestone pilaster. The walls of the chambers were roughly cut, especially in their lower corners, and there are distinct traces of a coarse white plaster, with which the walls and floors were probably covered. Possibly the gear for drawing up the ships was placed in these chambers, which open out at the corners into the trenches containing the series of bases for columns, but it would seem strange to have this gear lower than the top of the slide.

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[1] Some distance back from the top of the back wall was a drain, 0.50 m. wide, cut in the rock. The stone is here badly disintegrated, but from what remains it is seen that this drain sloped toward the south, and probably caught the water flowing down from above so as to carry it away from the ship-sheds.

The slides up which the triremes were drawn were finished in semicircular curves at their upper ends with a plain upper surface, but farther down toward the water the shape became changed to a kind of trench, or trough, with bevelled edges. These sank between the ridges upon which the columns stood, as shown in PLATE XI. These slides were probably supplied with wooden frames, into which the boat was set and then drawn up; the slide was raised at the top in order to facilitate any examination of the bottom of the boat, while the depression below made the exit and entry easier. Heuzey thought that the slides were of different sizes, but this is not the case. His mistake arises from his failure to observe that several of the piers had fallen (although this is still clearly evident), and he therefore erroneously supposed some slides to be twice the width of others. The five grooves, or troughs, have an average width of 2.25 m., which, with 0.50 m. for the bevelling at each side, gave them a total width of 3.25 m., as compared with a measurement of 3.10 m. in those at Piraeus, whose edges are not bevelled. At the eighth column the grooves at Oeniadae are 0.75 m. in depth.

The sixth section, that on the north, was, as I have said, probably a storeroom, in which spars, ropes, and other materials might be kept. It was partitioned off from the shipsheds proper by means of a wall of white limestone, 0.52 m. in breadth, just to the north of the last row of columns. Two courses of this wall now remain, on which the workmen may be seen standing in Fig. 49. Whether or not there were doorways in this wall was not discovered, since we found it very difficult to dig here, owing to the huge masses of fallen stone, but it seems likely that there were two or three means of communication between the two divisions of the building. The width of this room is about 5.60 m. Whether or not there were doors in the outside wall at the north cannot be known, but in the south wall no openings appear. The drawing of Cyriacus, with its distorted perspective, may represent an arched portal as existing in this wall when he visited the city.

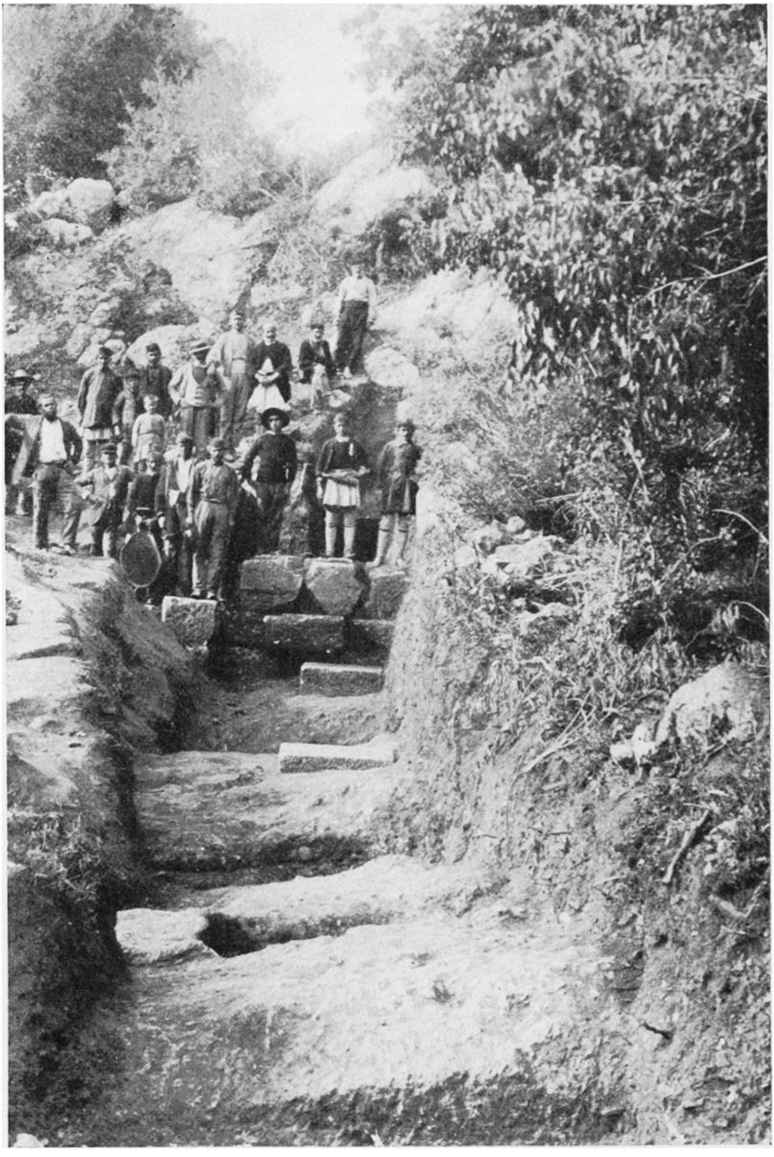

FIGURE 49.— SHIP-SHEDS AT OENIADAE. TRANSVERSE TRENCH SHOWING SLIDES AND PARTITION-WALLS OF STOREROOM.

Of materials or apparatus used in connection with boats only one discovery was made. This was a small lead weight (Fig. 50), having a total length of 0.66 m. A small hole is pierced through the neck at the top, through which a cord might be passed, and in the bottom is a small indentation which brings to mind the same arrangement in the sounding leads of ships to-day, the hole being filled with tallow for determining the character of the bottom. Our lead may have been used for the piloting of boats through the channel out to the sea.

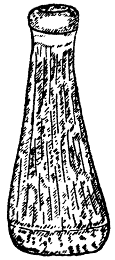

FIGURE 50. — LEAD WEIGHT FROM THE SHIP-SHEDS.

A number of stamped tiles were discovered, which belonged to the superstructure of the building. The best preserved of these (Fig. 51) gives a name in the genitive, Φίλωνος. The letters are about 0.015 m. in height and show broadened apices to the straight strokes. The *o* is much smaller than the other letters. A fragment (Fig. 52), showing only the ending —*νος*, is the same in style and evidently is part of the same name. This name immediately recalls the Philon, son of Execestides, who was the architect of the great arsenal at Piraeus in 330–329 B.C. and who later built the portico of the Telesterion at Eleusis sometime between 318 and 307 B.C.[1] Of course, we cannot be certain that our stamp refers to the same man, but there is a possibility that such was the case.

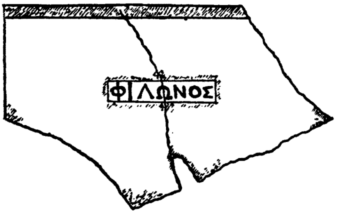

FIGURE 51. — TILE FROM SHIP-SHEDS.

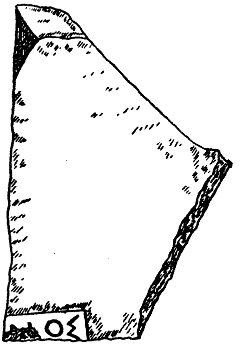

FIGURE 52. — TILE FROM SHIP-SHEDS.

Two other fragments (Fig. 53) show the beginning and end of the name ʽΟμίλου, in letters 0.0175 m. high. These letters are different in style and possibly belong to an earlier period than the preceding.

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[1] Cf. Vitruv. VIII, praef. 17.

Another flat tile (Fig. 54) shows the word [’Ακ]αρνᾶνο[ς] in broad letters 0.015 m. in height; the *o* here is much reduced

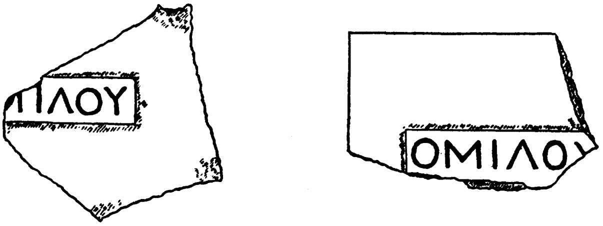


FIGURE 53. — TILES FROM THE SHIP-SHEDS.

in size. The stamp probably included the name of some Acarnanian workman who put his nationality after his own name.

A stamped jug-handle (Fig. 55) gives us a complete name, ’Αριστίων, in letters 0.007 m. high. The total length of the seal is only 0.05 m. The late form of sigma is to be noticed.

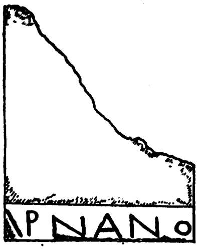


FIGURE 54. — TILE FROM THE SHIP-SHEDS.

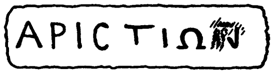


FIGURE 55. — TILE FROM THE SHIP-SHEDS.

A small curved fragment of tile (Fig. 56), which evidently formed part of the neck of a pipe, completes the list of tiles bearing stamps. This stamp is a small oblong, only 0.03 m. in length and 0.01 m. in width, inside of which are letters only 0.005 m. in height. The curious letters are evidently Roman and give the Latin form *Zoil(u)s* of the Greek name, Ζωΐλος.

One bronze coin, dating probably from the third century A.D., bears the head of a Roman emperor (Probus?) on the obverse, and on the reverse a nude figure standing on a rock, a staff in the left hand and right arm stretched out; of the inscription only the letters CONS▨ appear. A small rod or needle of bronze completes the list of small finds. This piece is 0.15 m. in length and is about 0.003 m. square, one end being pointed; at 0.009 m. from each end is a small slot, which may have served to hold the threads for coarse sewing.

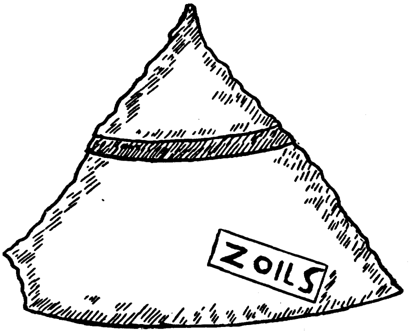
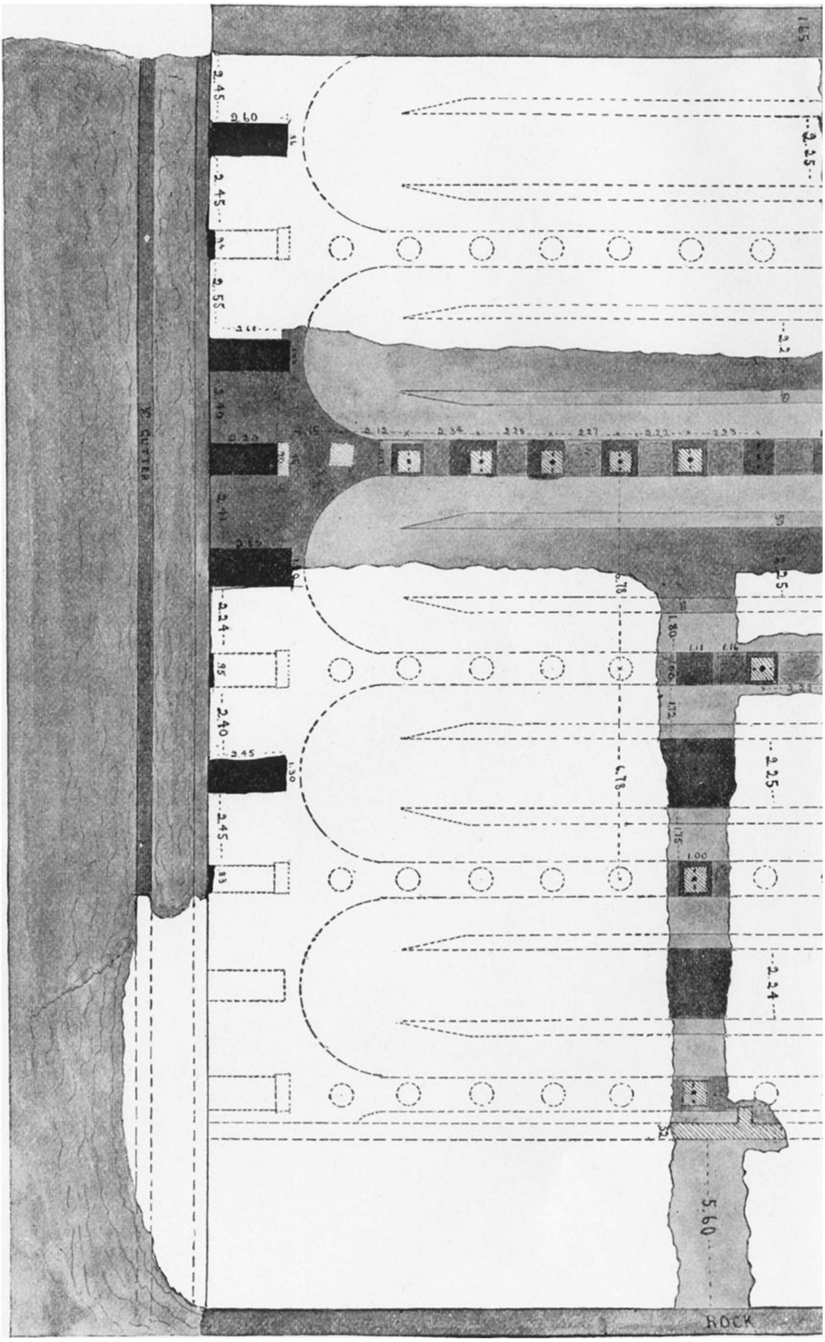


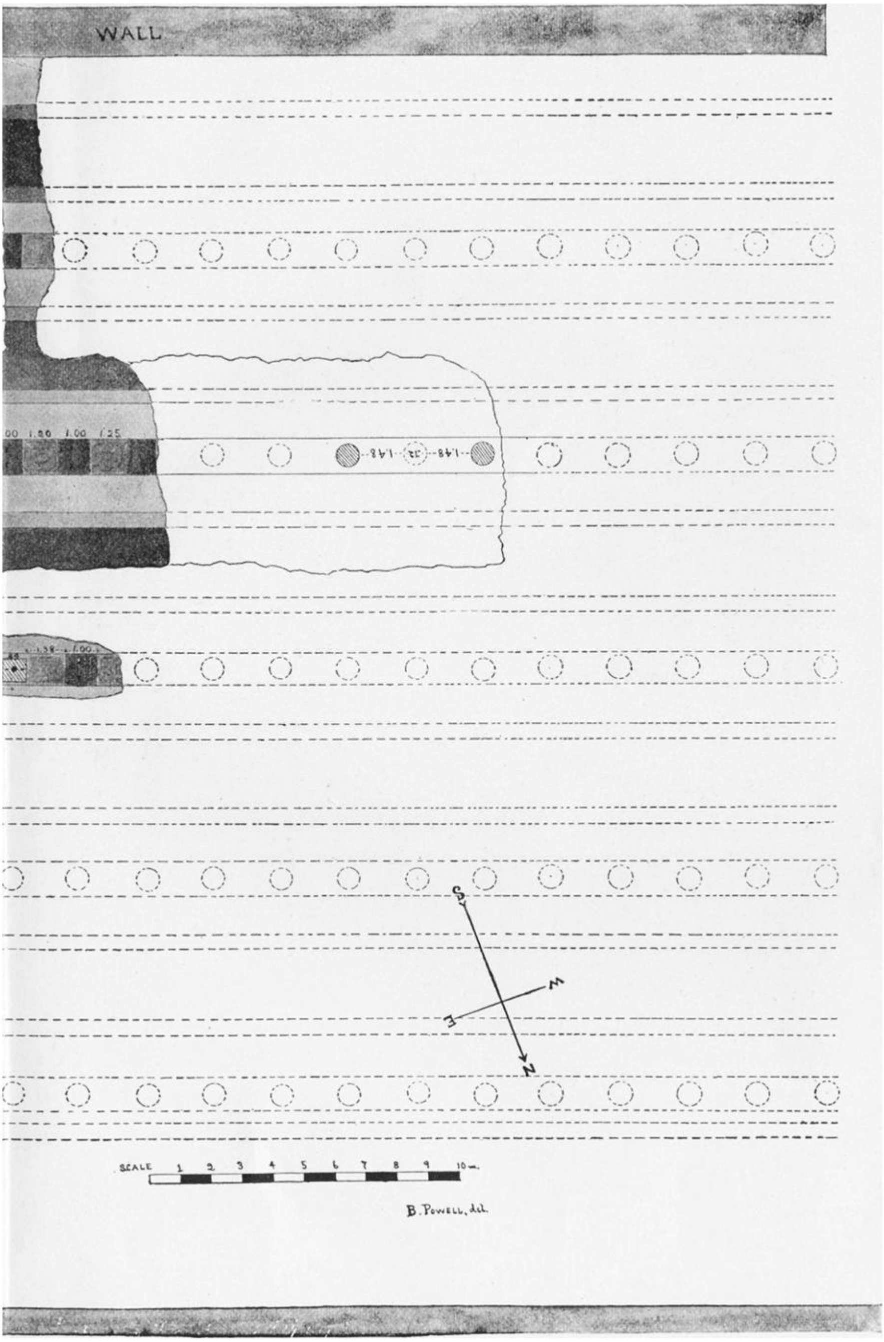
Figure 56. — Tile from the Ship-sheds.

The date of these ship-sheds cannot be decided with certainty. None of the smaller finds date from earlier than the third century B.C., while, on the other hand, the construction would point to an earlier date.

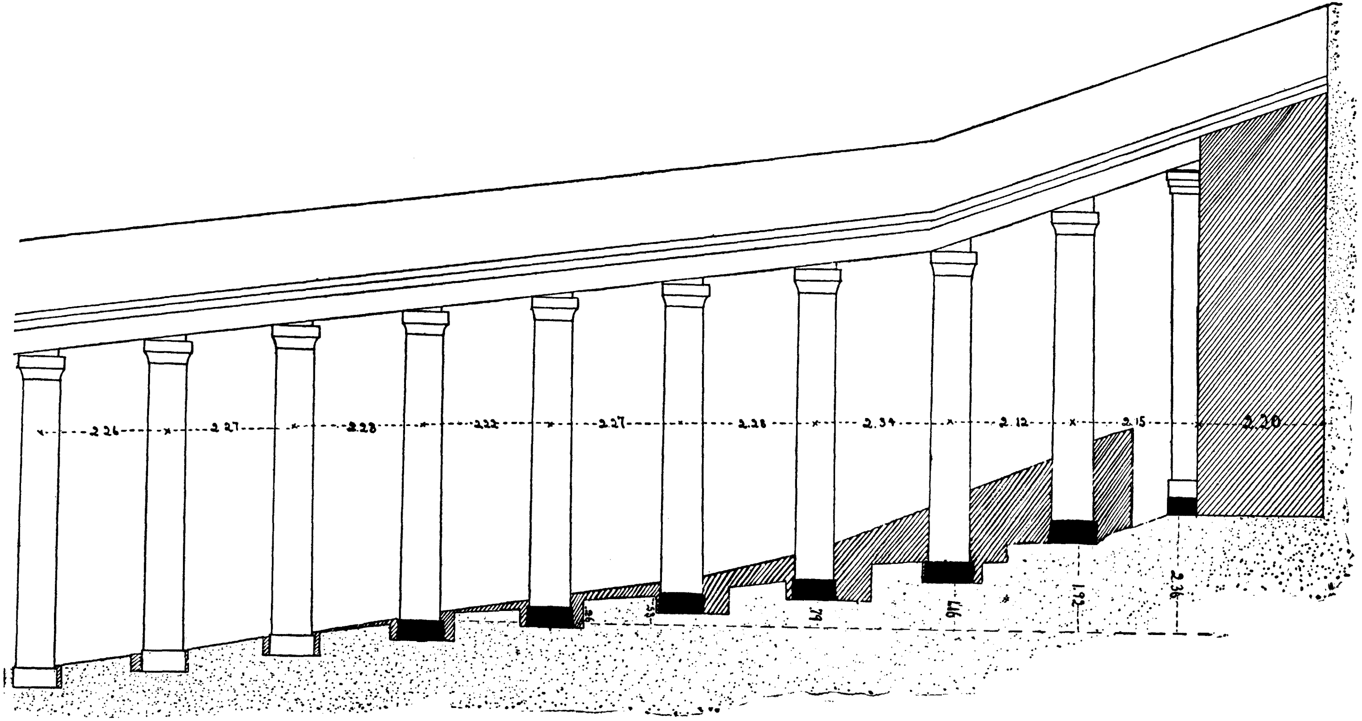
Joshua M. Sears, Jr.



PLAN OF EXCAVATIONS IN



THE SHIP-SHEDS AT OENIADAE



THE SHIP-SHEDS AT OENIADAE

The second row of columns, counting from the south, showing the differences in elevation and the pitch of the slide beyond